CORE

The Voice of Mineral Exploration/Winter 2019

METC renewed for 5 years!

PDAC AWARDS: CELEBRATING OUR BEST

PDAC 2019 CONVENTION NEWS AND HIGHLIGHTS

NEWS FROM ACROSS THE SECTOR

PDAC
PROSPECTORS & DEVELOPERS ASSOCIATION OF CANADA

CORE

The Voice of Mineral Exploration
Winter 2019

FEATURES

2
Industry news

4
Renewal of METC for 5 years

6
PDAC Award recipients

12
PDAC 2019 Convention news and highlights

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INDUSTRY NEWS

FEDERAL BUDGET 2019

PDAC provided recommendations for Federal Budget 2019 to enhance Canada's mineral industry competitiveness. As an industry that operates across the country, and is the largest industrial private sector employer of Indigenous peoples, the minerals sector is uniquely positioned to offer economic opportunities to all Canadians.

Recommendation 1

Renew the Mineral Exploration Tax Credit (METC) for a minimum period of three years to catalyze investor interest in flow-through shares and support access to exploration financing for proponents.

Recommendation 2

Support the mineral industry's competitiveness in northern and remote regions by:

- Addressing the infrastructure deficit through increased, strategic investments in transportation and energy infrastructure.
- Ensuring that any new carbon price regime addresses the unique challenges faced by remote and northern regions, and includes a fiscal support mechanism for mineral exploration projects that must rely on diesel and other fossil fuels (e.g. rebates, a funding pool, tax credit).

Recommendation 3

Enhance the participation of Indigenous peoples in the minerals industry through:

- Foundational social investments (housing, water, infrastructure) that contribute to improved health and educational outcomes for Indigenous communities.
- Targeted funds for skills training and entrepreneurship.

Recommendation 4

Create a funding mechanism for provinces and territories to support the undertaking of comprehensive mineral resource assessments, based on geoscientific studies, in order to understand and incorporate the value of mineral potential into regional assessments and land management decisions.

Recommendation 5

Support geoscience mapping and innovation in the mineral sector by providing:

- Increased funding to the Geological Survey of Canada.
- Fiscal incentives/funding for mineral companies to encourage the testing and adoption of innovative technologies and processes (e.g. innovation funding mechanism, tax credits, etc.).

CONCERN OVER PROPOSED CHANGES BY FINANCE CANADA

Finance Canada published proposed amendments to paragraph 186 of the *Excise Tax Act* (ETA), which will limit the ability of exploration and development companies that operate through subsidiaries to claim tax credit for GST/HST spent in Canada. PDAC submitted a response to express the concerns of the mineral industry regarding the potential for an increase in capital and operating costs.

PDAC also voiced its concern over proposed changes to holding corporation GST/HST rules. Finance Canada's current proposal indicates higher ownership thresholds for subsidiaries (90% versus the current 50%) will be required in order to enable holding corporations to claim tax refunds for GST/HST paid in Canada for subsidiary-related expenses. This change, if enacted, will adversely impact cost structures within the mineral sector.

Supreme Court opens door to cooperative securities regulator

The Supreme Court ruled that the Constitution allows federal, provincial and territorial governments to work together to regulate securities trading under a single, unified system. The ruling cleared a major setback for the establishment of the Capital Markets Regulatory Authority (CMRA), which PDAC has supported from its original conception, as a way to improve capital market efficiencies across Canada.

METC RENEWED FOR 5 YEARS!

PDAC celebrates government's announcement in the 2018 Fall Economic Statement that the Mineral Exploration Tax Credit (METC) will be renewed for five years. This is the first multi-year renewal of the METC since its inception in 2000—something PDAC has long championed and advocated for. PDAC applauds the Government of Canada for taking steps to enhance the competitiveness of Canada's mineral sector and thanks our members and stakeholders for helping us achieve this victory. "This commitment by the government is a monumental sign of support for the growth of, and investment in, Canada's mineral exploration sector," says Glenn Mullan, PDAC President. "The METC is a critical component of our industry that helps to catalyze investment in mineral exploration projects that lead to the discoveries that could become the mines of the future."

Mineral Exploration Tax Credit renewed for five years

PDAC ACHIEVES HARD-FOUGHT ADVOCACY WIN IN SUPPORT OF MEMBERS

BY LESLEY WILLIAMS

After nearly two decades of steadfast advocacy work on behalf of our members, the Mineral Exploration Tax Credit (METC) has been renewed for five years by government. The monumental decision was announced in the 2018 Fall Economic Statement (FES). This is the first multi-year renewal of the METC since its inception, something PDAC has long championed and advocated for.

Until now, with each successive federal budget, the METC has only been renewed for a one-year period, leaving exploration companies and investors with a sense of uncertainty about future financing and project planning. The multi-year extension will help to provide greater certainty and boost confidence for investors. It also signals that the government understands the importance of Canada's junior exploration sector.

Originally introduced in 2000, the METC is an innovative "made-in-Canada" policy tool that has complemented the flow-through share regime. The METC incentivizes exploration financing by providing a 15% tax credit on eligible expenditures to individuals who invest in the flow-through shares of companies that are exploring for minerals in Canada.

Advocacy work comes in all shapes and forms. It can often require long periods of interaction with governments, constant adjustments in strategy and of recommendations based on a number of factors, and it can be difficult to measure advancements, with some wins being more visible than others. The multi-year extension of the METC has been a staple of PDAC's annual pre-budget recommendations to the federal government for nearly two decades.

Following the 2018 report by the House of Commons Standing Committee on Finance, which included our METC recommendation, there was a window of opportunity to make it a reality. Once again, PDAC featured the METC recommendation in our pre-budget submission to government as a priority issue. We supplemented this by undertaking targeted advocacy efforts in Ottawa that included meetings with Members of Parliament and officials, various letters and PDAC's Hill Day—our annual lobby day.

In our messaging to government, PDAC outlined the need for the METC to support exploration companies in their efforts to raise financing, particularly amidst increasing competition for capital. We also highlighted the importance of this fiscal incentive by outlining the signs that investment in Canada's mineral sector has been waning in several areas. In addition, we enlisted the support of PDAC members, who reached out to Ottawa to indicate the importance of the tax credit to their projects, as well as those that are operating mines that were once discoveries made with the support of flow-through shares and the METC. PDAC's efforts were further bolstered by the help of provincial and territorial exploration and mining associations that reached out to federal officials, as well as support from some of Canada's mines ministers. All of this work was critical in the realization of this historic development.

Canada's mineral sector faces strong global competition for investment, and obtaining financing for exploration activities, largely undertaken by junior companies, has become increasingly challenging. Flow-through shares and the METC have played an essential role in attracting investment for small to medium sized, non-revenue generating exploration companies operating in Canada.

The METC continues to be an extremely effective incentive that has stimulated investment in Canadian mineral exploration over the past 18 years. Finance Canada has estimated that every dollar of flow-through financing generates $2.60 of exploration expenditures in Canada. Even more telling is PDAC's data. From 2011 to 2017 flow-through financing averaged $577 million annually, which was nearly 70% of funds raised on Canadian stock exchanges for exploration in Canada, illustrating the importance of this tool to the Canadian mineral sector. The METC is a fundamental component of the policy infrastructure that has made Canada a top jurisdiction for mineral exploration financing, and the extension of it to five years further strengthens the effectiveness of this initiative.

The five-year renewal of the METC will provide stability for exploration companies, increasing the opportunity for multi-year exploration program flow-through funding and allowing for longer-term planning. This is vital for exploration programs given that work on projects is carried out in stages over an extended period of time. Exploration companies and investors depend on some level of certainty to finance not only the current year of their exploration programs, but also any subsequent exploration necessary to fully scope the mineral potential of a particular property. The five-year renewal of the METC is not only significant for the issuers, but also for investors due to the certainty it can provide. Improved financial confidence for an exploration company can enhance investor confidence that an exploration program can advance and reach definitive stages of value creation.

Each year PDAC had to focus its federal pre-budget advocacy efforts on ensuring that the flow-through share mechanism would be sustained, and that the METC would be renewed. With the METC now secured for five years, we are able to focus on highlighting other key recommendations for the federal budget that can play a role in supporting Canada's mineral industry. Support for the sector is critical in driving new discoveries that will lead to new mines, and helping to advance Canada's mineral industry competitiveness well into the future. **c**

PDAC AWARDS

The PDAC is pleased to announce the 2019 award recipients in six categories for their outstanding leadership and contributions to the mineral exploration and mining sector.

Recipients will receive their awards and be celebrated at the Awards Gala & After Party during the PDAC 2019 Convention on March 5 at the Fairmont Royal York Hotel.

BILL DENNIS AWARD

This award, named for a former president of the association, honours individuals who have accomplished one or both of the following: made a significant mineral discovery; made an important contribution to the prospecting and/or exploration industry.

Peregrine Diamonds Ltd. and BHP, Chidliak Team

For the discovery of the Chidliak diamond district on Baffin Island, Nunavut

Peregrine Diamonds Ltd. discovered the first kimberlites in the Chidliak diamond district of southern Baffin Island, Nunavut in 2008. By the time De Beers Canada acquired the junior a decade later, 74 kimberlites had been discovered and a positive preliminary economic assessment (PEA) had been released showing that two of the kimberlites could support an operation producing 16.7 million carats over a 13-year mine life.

In the early 2000s, BHP Billiton focused its efforts on southern Baffin Island as a prospective area for diamond exploration. Although most age-dating information suggested that the basement geology was not ideal to host economic diamond deposits, exploration manager Geoff Woad was sceptical of the studies and felt strongly that BHP should target the region. Looking to leverage its diamond exploration spending, BHP formed a strategic alliance with Peregrine to explore Baffin Island for diamonds and metals. After conducting a jointly-funded regional sampling program in 2005, enough kimberlite indicator minerals (KIMs) were recovered to justify a follow-up program.

In 2006, Peregrine took responsibility for sole funding, operating and property acquisition, leaving BHP with certain back-in rights. After a successful 2006 follow-up program the first claims were acquired in early 2007. The field program confirmed high diamond potential on the property. Chairman Eric Friedland kept the funding taps flowing during this period, while President Brooke Clements prioritized the project over all others in the junior's stable during the tough equity markets of 2008.

By 2008, glacial till sampling had sufficiently outlined a target area where Peregrine initiated the first airborne geophysical survey. The diligent field crew combined geophysical interpretation and prospecting to identify the first three kimberlites at Chidliak on a real-time basis. The first kimberlite yielded a two carat gem quality diamond that same year.

Encouraged by the finds in 2008, BHP exercised its back-in rights to acquire a joint-venture interest and funded exploration programs for the next three years resulting in a rapid pace of kimberlite discovery. When BHP decided to exit the diamond business in 2011, Peregrine purchased their entire 51% interest in the project for $9 million. Peregrine also purchased BHP's 2% retained royalty.

Persistent, methodical exploration paid off and by 2016 Peregrine had discovered a total of 74 kimberlites, the majority of which are diamondiferous. Today, it is now well-established that the Chidliak kimberlite field is hosted by old Archean terrain, confirming Woad's early suspicions about the basement geology. Peregrine was able to hone in on the most prospective of the kimberlites and included two of them in a PEA released in mid-2018. The PEA outlines an open pit mine with a capital cost of $521 million, including a $95 million access road from Iqaluit, with an after-tax NPV of $669 million and an IRR of 31.2%.

In September 2018, De Beers Canada acquired Peregrine and all of its Canadian projects in a friendly deal priced at 24 cents per share, or $107 million. De Beers is planning to apply the "FutureSmart" approach to mining at Chidliak using innovative techniques developed by its parent Anglo American to shrink mining's footprint and lower energy costs.

PEREGRINE DIAMONDS LTD.

BHP

DISTINGUISHED SERVICE AWARD

This award recognizes an individual who has achieved one or more of the following: made a substantial contribution to mineral exploration and mining development over a number of years; given considerable time and effort to PDAC; made outstanding contributions to the mineral industry in the field of finance, geology, geophysics, geochemistry research, or a related activity.

Don Bubar

For his contribution to building awareness of Indigenous issues among PDAC members, his support of geoscience education in Canada, and his exploration success

During Don Bubar's 40-year career as a geoscientist he has contributed to successful exploration in Canada, and been a leading advocate for geoscience education. But his most enduring legacy may be his role in forging a better, more productive relationship between Indigenous groups and the minerals industry. As founder and head of PDAC's Aboriginal Affairs committee, Don recognized the urgent need to bring the two groups together in dialogue about how exploration and mine development could support local communities through training, jobs, and business development.

Don graduated from McGill University with a B.Sc. in geology in 1977 and completed his M.Sc. at Queen's University in 1981. He worked as an exploration manager for Aur Resources from 1984 to 1994 where, as Vice-President of Exploration, he helped guide the discovery of the Louvicourt copper-zinc mine near Val d'Or, Québec. He has been President and CEO of Avalon Advanced Materials since 1995, working to develop three advanced stage projects across Canada with the potential to provide critical metals and minerals for new technology applications.

Don was chair and co-chair of PDAC's Aboriginal Affairs committee from its creation in 2004 until his retirement from the PDAC Board of Directors in 2013. During his tenure, the number of Indigenous participants at the organization's annual convention grew exponentially and, in 2009, the PDAC signed a ground-breaking agreement with the Assembly of First Nations to promote participation of Indigenous people in the minerals industry. Through Don's work, there is increased understanding by PDAC members about the importance of community engagement from the earliest stages of mineral exploration.

Don serves on the Advisory Board to the Faculty of Science at his alma mater McGill, and is a Director of the Northwest Territories and Nunavut Chamber of Mines. He has personally endowed three separate scholarships supporting at least six students annually at McGill and at Dalhousie University in Halifax.

In 2016 Don joined the Board of Mining Matters, a charitable organization with the mission to support geoscience education in the Canadian school system and increase awareness about the relevance of minerals and metals in modern society. In his latest role, he will advocate for Indigenous youth camps where the next generation of northerners will have the opportunity to explore career opportunities within the industry.

ENVIRONMENTAL & SOCIAL RESPONSIBILITY AWARD

This award honours an individual or organization demonstrating outstanding initiative, leadership and accomplishment in protecting and preserving the natural environment, and/or in establishing good community relations during an exploration program or operation of a mine.

NexGen Energy

For employing the latest technologies to reduce exploration's environmental footprint and for fostering economic and social development in neighbouring communities through a variety of initiatives

NexGen Energy, winner of the 2018 Bill Dennis Award for the discovery of the Arrow uranium deposit in Saskatchewan, has expanded its pursuit of excellence into the realm of environmental and social responsibility as Arrow advances towards development and production.

On the environmental front, the Vancouver and Saskatoon-based company is overhauling dated practices and implementing new technology to minimize its footprint. Directional drilling is testing several targets from a single location, significantly reducing the land disturbed by conventional drilling. At each drill site, centrifuges separate return water from mineralized cuttings to prevent contamination. Meanwhile, extensive studies are characterizing the existing environment to inform future planning, disturbed areas are being revegetated, and plans are underway to install a solar energy pilot project and construct energy efficient buildings.

NexGen is also leading the way in community engagement in northern Saskatchewan by introducing several initiatives designed to improve economic development, health and community well-being through sports and recreation. NexGen has focused on employment opportunities for La Loche and surrounding communities with a rapidly increasing number of services and supplies being locally sourced. Through an alliance with the Breakfast Club of Canada, NexGen is feeding healthy breakfasts to over 1,100 students in three schools nearby. High-school and post-secondary students are invited to explore different career options by participating in NexGen's summer internship program, and qualify for bursaries to fund their university or college education. Over 29 students have completed this program since 2016. Additionally, youth have the opportunity to pursue active and culturally-rich lives as a result of ongoing sponsorships for local sport teams, music and dance clubs. Even the dogs are looked after: NexGen hosts a fostering program at its camp that gives homeless dogs a safe place to stay while they await adoption—some of which are adopted by NexGen's staff.

The Arrow uranium deposit is expected to have a mine life of at least nine years, according to a pre-feasibility study completed in 2018. By offering hands-on work experiences and access to education, sports and cultural opportunities, NexGen is empowering the local population to build a positive future within their own communities and at the proposed mine. By implementing progressive environmental practices and devising innovative approaches to future challenges such as underground tailings storage, the company is ensuring the environment that surrounds them remains as unaltered as possible during exploration, development and mining.

SKOOKUM JIM AWARD

Recipients of this award have demonstrated exceptional achievement and/or service in a Canadian Aboriginal-run service business for the Canadian mining industry or a Canadian Aboriginal exploration or mining company, or have made a significant individual contribution to the mining industry.

Gordon Maxwell

For his contribution to Canada's mineral exploration and mining industry by helping to set the bar for drilling safety and community consultation

Gordon Maxwell is a well-respected geologist and member of the Sachigo Lake First Nation in Ontario. He is recognized for his leadership, dedication to health and safety, and talent for community consultation.

Born in Pickle Crow, Ontario, an abandoned gold mining town, Gord began his 39-year career as an exploration geologist for Noranda based in Thunder Bay. He has worked on projects across Canada and abroad for Noranda and its subsidiary Falconbridge, then later for Falconbridge's successor Xstrata, and most recently for Glencore, which acquired Xstrata in 2013.

As a member of the Canadian Diamond Drilling Association (CDDA), Gord advocated for better risk management at the drill site. Drawing on his years of experience as an exploration geologist, Gord was able to contribute his knowledge of working alongside drillers to the discussion. He served on CDDA's Western Safety group, and on the committee in charge of developing the Drilling Excellence Certification (DEC)—a new, higher standard for the drilling industry. For his contribution to health and safety in the field, Gord received the 2012 David Barr Award from British Columbia's Association of Mineral Exploration (AME).

Gord also helped to set the bar for industry consultation with communities and Indigenous groups. When Xstrata was planning exploration around the Kidd Creek Mine in northern Ontario in 2008, Gord engaged in a clear, respectful and honest dialogue with the Wahgoshig First Nation, offering opportunities for community members to participate in the project. One of those opportunities was a six-month contract assisting the geological team. The woman selected for the contract went on to become the community's environmental monitor for subsequent exploration, inspiring other Wahgoshig youth to consider applying for junior roles.

In 2010 Gord took on the demanding task of re-evaluating several closed mines Xstrata had inherited from Noranda. The exercise required coordinating teams of experts for every aspect of the revaluation from reprocessing thousands of diamond drill samples to resource modelling and project management.

Throughout his domestic and international career, Gord has demonstrated outstanding technical abilities, professionalism, and a commitment to safe and socially responsible exploration. He is a role model for Indigenous youth who aspire to a career in the industry.

VIOLA R. MACMILLAN AWARD

This award, which is named in honour of the PDAC's longest serving president, is given to an individual or organization demonstrating leadership in management and financing for the exploration and development of mineral resources.

Nemaska Lithium

For demonstrating leadership in transforming a grassroots exploration property into a vertically integrated lithium operation in Québec that will provide a new source of supply for the surging lithium battery market

The rapid growth of Nemaska Lithium exemplifies how swings in commodity markets can invigorate junior mining companies nimble enough to capitalize on them. When Nemaska started kicking rocks on the Whabouchi property in northwestern Québec in 2009, there were only a few grab samples and one significant lithium intersection—drilled almost 50 years previously—in the property's exploration record. By successfully duplicating the historical results at a time when lithium was being recognized as a key component of cellphone batteries and other new applications, Nemaska was able to raise enough funds to finance further exploration of Whabouchi's spodumene-bearing pegmatite zone.

Today, Nemaska is well underway on construction of a vertically integrated lithium operation, having raised a remarkable $1.1 billion through a combination of a bond offering ($455 million) a streaming agreement ($195 million) and a $454 million share issue partly taken up by the Québec government. The Whabouchi spodumene mine is expected to produce 213,000 tonnes of 6.25% Li2O concentrate annually that will be shipped to and processed at an electrochemical plant in Shawinigan to produce high-purity lithium hydroxide and lithium carbonate.

Nemaska is the brainchild of President and CEO Guy Bourassa, a lawyer with decades of experience in the mining industry. He negotiated the original acquisition of Whabouchi and went on to raise more than $150 million to develop the deposit to the point where Nemaska was able to secure off-take agreements for the mine's production with several large end users worldwide. Bourassa also stickhandled development of a patented process to produce lithium hydroxide and lithium carbonate directly from spodumene, the key to building an operation that can compete with other lithium producers worldwide.

Global lithium demand grew about 17% in 2017 because of surging demand for the metal in batteries for applications ranging from cellphones to electric cars. The market is expected to expand even more significantly in the coming years as new technologies take hold. Nemaska's large low-cost operation has the potential to produce 10% of the supply of battery-grade lithium hydroxide, currently the most sought after lithium compound.

The Whabouchi mine, located about 300 km north of Chibougamau near the Cree community of Nemascau, is expected to begin production in the second half of 2019 with 200 employees. The Shawinigan plant will come online a year later with 100 employees. Nemaska has signed an agreement with the Cree covering training, employment and revenue sharing and Nemascau has a significant equity stake in the junior.

Based on a 2018 feasibility study, Whabouchi has an after-tax NPV of $2.2 billion and an IRR of 56.0%. Reserves of 37 million tonnes grading 1.4% Li2O will support a mine life of 33 years. An even larger resource remains open, suggesting that the mine may provide the world with lithium for decades to come.

NEMASKA LITHIUM

CARDINAL RESOURCES

THAYER LINDSLEY AWARD

This award recognizes an individual or a team of explorationists credited with a recent significant mineral discovery anywhere in the world.

Cardinal Resources

For the 2014 discovery of the Namdini gold deposit in northeastern Ghana

Despite some previous indications of gold mineralization, the Nangodi greenstone belt in northeastern Ghana was largely unexplored when Cardinal Resources, led by Archie Koimtsidis, decided to have a look. The Perth-based company optioned the Namdini project within the belt in mid-2014 and immediately launched a small reverse circulation (RC) drilling program. The first holes intersected gold mineralization over respectable widths. Today, Namdini is considered one of the most significant gold discoveries in West Africa so far this century.

After Cardinal's first successful exploration pass, encouraging results from subsequent RC holes gave the junior confidence to step out 600 metres along strike of the mineralized trend with its first diamond drill hole in 2015. The step-out intersected 87 metres grading 1.08 grams per tonne gold. On the strength of this, and other consistently positive results, Cardinal was able to raise AUD$5 million to further investigate the project in a tough financing environment for juniors. Soon after, several high profile investors, including New York-based VanEck, South Africa's Gold Fields, and the Royal Bank of Canada, took positions in the junior and in mid-2017, Cardinal began trading on the Toronto Stock Exchange (TSX) to add to its ASX listing.

In the four years since drilling commenced, Cardinal has outlined one of the largest gold deposits discovered in West Africa since 2000. A 2018 preliminary feasibility study (PFS) indicates probable reserves of 4.76 million ounces of gold in 130 million tonnes grading 1.14 grams per tonne gold, plus another 6.5 million ounces of indicated resources. The deposit would support an open pit operation producing 361,000 ounces per year for 14 years at an all-in sustaining cost of US$769 per ounce. Namdini boasts an NPV of US$586 million and IRR of 38%, both after tax.

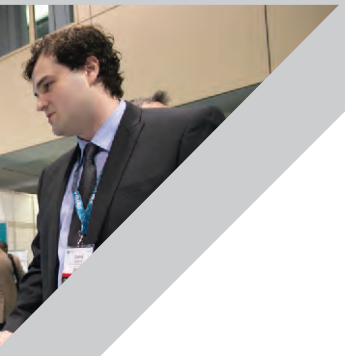
The location and characteristics of the Namdini deposit make it unique. Although Ghana is one of the Top 10 gold producing nations in the world, gold was never expected to be found in significant quantities in its northeastern regions where rocks are commonly concealed by the Volta River embayment. Secondly, unlike other deposits in West Africa's Birmian gold province, which often resemble small pearls on a string, Namdini is a large, shallow stand-alone deposit.

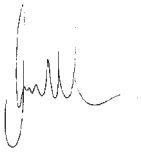
The proposed mine development is expected to be a major source of new employment in northeastern Ghana—where there is limited commercial activity—and pave the way for geological interest in this previously underexplored region. By the third quarter of 2019, Cardinal expects to complete an already fully funded feasibility study that will form the basis for mine development. c

PDAC 2019 Convention

Message from the President

Every year our Registration Brochure begins with a message from the PDAC President. And every year we say something along the lines of: "How did it get to this time of year already?" I feel the same way again. While I prepare to celebrate my 44th consecutive PDAC Convention, the event will incredibly celebrate its 87th anniversary. To add a little perspective on how much our convention has grown in size and stature, more than a quarter of a million attendees have participated in the world's premier mineral exploration and mining convention since 2010. No small feat. Following a hugely successful PDAC 2018 Convention, which welcomed more than 25,000 attendees from 135 countries, there are big expectations for 2019. Over the past year, we have seen confidence return to Canada's mineral exploration and mining sector with investment remaining steady year-over-year. The PDAC Convention is a temperature gauge for the sector. It is renowned for bringing the latest trends, technologies, knowledge and information to Toronto every year, and participation measures how hot or cold the investor climate might be in the year ahead. It is also the best opportunity for junior miners and individual prospectors to showcase their latest projects and discoveries, and for students to find their big break. After two years of sold-out exhibitor space and long waiting lists, I'm pleased to announce that Trade Show North is expanding to accommodate demand. The 4th International Mines Ministers' Summit (IMMS), co-hosted by PDAC and the World Economic Forum, will build on the success of previous years by bringing international Mines Ministers from around the world together to discuss challenges and opportunities, and to learn from one another. Julian Kettle, Vice Chairman of Metals and Mining at Wood Mackenzie, will discuss the possibility of metal shortages due to lack of investment in the mining industry at the Mineral Outlook Luncheon, and there will be an exceptional lineup of presenters, short courses, programs and networking opportunities. Visit our website (www.pdac.ca/convention) for the latest news and information. I look forward to welcoming you to the PDAC 2019 Convention, my last as PDAC President!





Glenn Mullan

PDAC 2019 THE WORLD'S PREMIER MINERAL EXPLORATION & MINING CONVENTION | HIGHLIGHTS

March 3–6 Metro Toronto Convention Centre | Toronto, Canada

Register at pdac.ca/convention

CONNECT WITH

25,000 ATTENDEES FROM 135 COUNTRIES

> Including investors, financiers, banking executives, fund managers, brokers, analysts, lawyers, mining developers, exploration managers, prospectors, geoscientists, government officials, media and more!

BUILD YOUR NETWORK AT THESE EVENTS

SOLD OUT IN 2018

BUY YOUR TICKETS EARLY

MINERAL OUTLOOK LUNCHEON | MONDAY, MARCH 4

Is the mining industry investing enough or are metal shortages inevitable?

Join us as **Julian Kettle**, Vice Chairman of Metals and Mining, Wood Mackenzie discusses the possibility of metal shortages due to lack of investment in the mining industry.

OTHER NETWORKING EVENTS

Sunday, March 3	Opening Day Reception
Monday, March 4	Trade Show Reception
Tuesday, March 5	Mining for Diversity Reception
Tuesday, March 5	Student-Industry Networking Luncheon
Wednesday, March 6	Grand Finale

AWARDS GALA & AFTER PARTY

TUESDAY, MARCH 5

The PDAC Awards Gala celebrates industry excellence and brings together the who's who of the global mining industry. Network at the exclusive cocktail reception followed by a three-course gourmet dinner and fine wines.

Then... it's on to the AFTER PARTY!

Your opportunity to meet and mingle with the Award recipients, C-level executives, financiers, brokers and mining developers.

550+

ENGAGING PRESENTATIONS AND INFORMATIVE COURSES
LED BY INDUSTRY EXPERTS

- Aboriginal Program
- Capital Markets Program
- Exploration Insights
- Franco-Mine (In French only)
- Geoscience Data Forum
- Presentation & Reception Rooms
- Short Courses
- Student & Early Career Program
- Sustainability Program
- Technical Program

KEYNOTE 2019: THE NEXT GENERATION

MONDAY, MARCH 4

Many companies are concerned with the aging workforce in the mining industry, along with the need to increase gender diversification. Keynote 2019 will focus on people under 40. This includes a young executive from each of the operating and financing sides of the industry to provide their views of the current issues they are facing and future trends for our industry. In addition, as a new approach for Keynote 2019, we will have a group presentation from a diverse team of prize-winning university students who will share their perspectives on the future of exploration and mining.

Profound innovation fuelled by collaboration

Stephen de Jong
Chief Executive Officer
VRify

Where technology, precious metals, jewellery and investment align

Roy Sebag
Chief Executive Officer
Goldmoney Inc.

Panel presentation: Millennials & mining

Romy Done
University of Toronto

Char Duffet
Carleton University

Lewis Wan
British Columbia Institute of Technology

SHORT COURSES

Register for in-depth, educational courses led by industry experts. A certificate of completion is available towards your professional development hour requirements.

NEW FOR PDAC 2019

Fundamentos de estimación de recursos minerales
(Instruction in Spanish only)

VALUABLE INVESTING INSIGHT

FROM INDUSTRY THOUGHT LEADERS IN THE MINERALS AND MINING SECTOR

> **Corporate Presentation Forum for Investors**
The latest updates on key activities and investment potential.

> **Letter Writer Presentations for Investors**
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PROMOTING LEADING PRODUCTS, SERVICES, MINING JURISDICTIONS, INVESTMENT AND DEVELOPMENT OPPORTUNITIES

- Core Shack
- Investors Exchange
- Prospectors Tent
- Trade Show & Trade Show North

PDAC 2019 Programming →

ABORIGINAL PROGRAM

The Aboriginal Program provides a platform for discussion on fostering cooperative, respectful and mutually-beneficial relationships between Indigenous communities and the minerals industry. This program brings Indigenous communities and Indigenous-owned companies together with the industry and other interested parties to share experiences, exchange ideas and network. For more information, visit **pdac.ca/convention/programming/aboriginal-program**

CAPITAL MARKETS PROGRAM

Access to capital is the lifeblood of the mineral exploration industry. The Capital Markets Program is intended to create a forum for a dialogue on a range of topics related to the financing of mineral exploration. For more information, visit **pdac.ca/convention/programming/capital-markets-program**

CORPORATE PRESENTATION FORUM FOR INVESTORS

Hear exploration and development companies present up-to-the-minute information on their current activities and investment potential. For more information, visit **pdac.ca/convention/corporatepresentationforum**

EXPLORATION INSIGHTS

Selected from a call for abstracts, these technical, policy and academic presentations offer insights into current and topical subjects. For more information, visit **pdac.ca/convention/explorationinsights**

FRANCO-MINE (IN FRENCH ONLY)

En collaboration avec l'Institut canadien des mines, de la métallurgie et du pétrole (ICM). Cette rencontre prestigieuse menée entièrement en français et à laquelle participent de nombreux décideurs de l'industrie comprend des présentations et une discussion entre des chefs de délégation provenant de certains pays francophones de l'Afrique. À titre d'événement exclusivement francophone ayant lieu pendant la conférence de l'ACPE de 2019, Franco-Mine procure une excellente plate-forme pour découvrir de nouvelles occasions dans ces pays. For more information, visit **pdac.ca/convention/programming/franco-mine**

GEOSCIENCE DATA FORUM

Data 2.0: Fuel for the next generation of exploration
Benchmarking the current state and charting a path forward, the workshop will discuss strategic data and formats integral to future exploration processes in an environment where data are becoming increasingly complex and acquired at an accelerating pace. The workshop will also outline PDAC's Exploration Assessment Digital Data Format (EADDF), and how this proposed Canada-wide standard for assessment results submission can drive more efficient exploration targeting and discoveries within Canada. For more information, visit **pdac.ca/convention/programming/geoscience-data-forum**

LETTER WRITER PRESENTATIONS FOR INVESTORS

Listen to industry commentators present their market research and ideas on how to select good investments in the resource sector. For more information, visit **pdac.ca/convention/letterwriterpresentations**

PDAC ONE-ON-ONE MEETING PROGRAM

Once again, PDAC has partnered with Precious Metals Summit Conferences, LLC to offer professionally organized one-on-one meeting services to bring qualified investors together with senior management. This exclusive program is available only to a select group of PDAC 2019 Investors Exchange Exhibitors, and carefully screened, qualified investors and portfolio managers from around the world. Advance registration is required. For more information, please visit **precioussummit.com/event/2019-pdac-one-on-onemeeting-program**

PRESENTATION AND RECEPTION ROOMS

Attend a Presentation Room to interact with countries and companies as they provide up-to-date information on their mining jurisdictions, products and services. For room descriptions and registration requirements, visit **pdac.ca/convention/presentationandreceptionrooms**

SHORT COURSES*

These courses are an opportunity for mineral exploration professionals and students to update their knowledge of mineral exploration science, technology, management and related issues. Courses are presented by recognized subject matter experts and are one day in duration unless otherwise noted. For more information, visit **pdac.ca/convention/programming/short-courses**

STUDENT & EARLY CAREER PROGRAM

As part of our commitment to engaging and retaining new talent in the exploration and development industry, PDAC hosts a number of student and early career events during the convention. Students have unique opportunities to network with industry professionals from around the world. For more information, visit **pdac.ca/conventionprogramming/Student-Early-Career-Program**

SUSTAINABILITY PROGRAM

The Sustainability Program (formerly known as the Corporate Social Responsibility Program or CSR Event Series) aims to facilitate multi-stakeholder dialogue and peer-learning on key issues related to responsible exploration and mining. For more information, visit **pdac.ca/convention/programming/sustainability-program**

TECHNICAL PROGRAM*

Attendees will learn next and best practices while industry experts share timely insights during these dynamic series of presentations. For more information, visit **pdac.ca/convention/programming/technical-program**

*Need professional development hours to maintain your professional designation? Upon request, PDAC will provide a certificate of completion for the Technical Program and Short Courses to help you meet your professional development requirements.

PDAC 2019 Exhibits →

Attend PDAC 2019 and meet with over 1,100 Exhibitors.

For a full list of exhibitors, visit pdac.ca/convention/exhibits/exhibitor-directory

INVESTORS EXCHANGE

Interested in investing in the exploration industry? Discuss investment potential with over 500 junior mining companies, mid-sized producers, major mining companies, financial institutions and prospectors.

CORE SHACK

Core Shack offers a venue for companies to display their core. Attendees are welcome to get up close and personal with projects that are generating exciting new drilling results. In addition to core, exhibitors will be displaying maps, charts and technical information on their drilling projects.

PROSPECTORS TENT

Get back to the heart of the industry with a visit to the Prospectors Tent. Located in the Investors Exchange, self-employed and independent prospectors will be there to discuss their maps, samples and claim results.

TRADE SHOW & TRADE SHOW NORTH
TRADE SHOW NORTH IS EXPANDING THIS YEAR!

Visit the Trade Show & Trade Show North to come face-to-face with over 600 Exhibitors including countries, organizations and governments promoting the latest technology, products, services and mining jurisdictions to a worldwide market.

EXHIBIT FLOOR ATTRACTIONS

SOCIAL SCENE

Share your PDAC experience online with your friends and colleagues. Enjoy the Social Scene where you can take team pictures and selfies with a variety of fun props in front of the PDAC backdrop. Post your pictures on social media with the hashtag #PDAC2019.

KIRWIN COLLECTION

The Royal Ontario Museum's Kirwin Collection is a can't-miss attraction on the Trade Show North show floor! The Kirwin Collection was built from hundreds of deposits and localities from around the world. Select samples from the collection will be featured in this booth. It is truly a geological library!

PDAC 2019 Networking Events →

Don't miss out on these valuable networking opportunities!

- **Tickets sell out quickly** so buy your tickets in advance with your convention registration (online, fax, mail)
- Corporate tables, identified with company name, are available when you purchase a table of 10 for the **Mineral Outlook Luncheon** or the **Awards Gala & After Party**

SATURDAY, MARCH 2

Mining Matters Hockey Tournament

8:00 am – 5:00 pm
Scotiabank Pond, Downsview Park, Toronto

Presented by

Mining Matters invites members of the minerals industry to face off at the annual Mining Matters Hockey Tournament as we celebrate 25 years of supporting teachers with classroom resources and training in mineral resources education.

Be a sponsor or enter a team that will hit the ice to compete for the coveted Caracle Cup!

About Mining Matters
The hockey tournament is an important annual fundraising event that helps support Mining Matters' goal of educating students, teachers and the public about Earth Science and the importance of mineral resources.

For further information contact 416 863 6463 ext. 321 or **tournaments@miningmatters.ca.**

SUNDAY, MARCH 3

Opening Ceremonies

Open to all pass types

10:30 am – 11:30 am
South Building, Level 700

Join Glenn Mullan, PDAC President; The Honourable Amarjeet Sohi, Minister of Natural Resources; Ed Sackaney, Knowledge and Wisdom Keeper and other special guests as we mark the official opening of the 2019 Convention.

SUNDAY, MARCH 3

PDAC NEW MEMBERS NETWORKING RECEPTION

By invitation only

3:00 pm – 5:00 pm
South Building, Level 700

Presented by

PDAC is delighted to host an event exclusively for new members! Over 1,500 industry professionals are invited to network with PDAC Directors and fellow members from around the world. This is an opportunity to meet with your peers, make valuable connections and discuss key issues central to the mineral industry.

New members who RSVP will receive a complimentary drink ticket with their pass. Cash bar available.

Not a PDAC member? Join now at **pdac.ca/members/membership**

SUNDAY, MARCH 3

Opening Day Reception

All Access Pass, Exhibits Day Pass required

4:00 pm – 6:00 pm
North Building, Level 300, Trade Show North

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CHINA CONSTRUCTION BANK

PDAC welcomes you to the largest networking event at the convention. Enjoy appetizers and a complimentary drink as you connect with attendees, exhibitors and colleagues.

All Access Pass holders receive a complimentary drink ticket with their pass. Cash bars available.

MONDAY, MARCH 4

Trade Show Reception

All Access Pass, Exhibits Day Pass required

3:00 pm – 5:00 pm
North Building, Level 300, Trade Show North

Sponsored by

Enjoy a glass of wine or beer as you network with Trade Show North exhibitors and attendees from international and domestic companies, including organizations promoting technology, products, services and mining jurisdictions.

All Access Pass holders and Exhibits Day Pass holders receive a complimentary drink ticket with their pass. Cash bars available.

MONDAY, MARCH 4

Mineral Outlook Luncheon

Admission ONLY with ticket

12:00 pm – 2:00 pm
South Building, Level 700

Ticket: $89.99 (includes a three-course meal, tax & gratuity)

Sponsored by

Julian Kettle, Vice Chairman of Metals and Mining, Wood Mackenzie, Guildford, UK

Is the mining industry investing enough or are metal shortages inevitable?

Mining investment peaked in 2012 at $220 billion US, then fell rapidly to a low of just $100 billion US by 2016. Since then, the sector has taken positive steps toward recovery in the midst of ever-growing challenges. So what lies ahead?

Join us as Julian Kettle discusses the possibility of metal shortages due to lack of investment in the mining industry.

Mr. Kettle has 30 years of experience in the analysis of metals and mining and is a recognized authority on the aluminium industry across the value chain from bauxite mining through to end-use analysis.

He frequently presents to senior industry and financial community stakeholders on Wood Mackenzie's analysis across the value chain of the metals and mining space covering copper, lead, nickel, zinc, iron ore, aluminium, steel and coal. His typical consulting assignments include: market environment assessment, expert witness, raw materials sourcing, contract pricing, portfolio optimization and strategic advisory relating to brownfield and greenfield investments. Mr. Kettle holds a degree in metallurgy and micro-structural engineering.

PDAC 2019 Networking Events →

Pass or ticket required

TUESDAY, MARCH 5

Awards Gala & After Party

5:30 pm – 11:00 pm **NEW START TIME**
Fairmont Royal York, Concert Hall **NEW ROOM**

Sponsored by

Awards Gala

Franco Nevada
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Dinner Wine

CIBC

Reception & After Party

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The PDAC Awards Gala celebrates industry excellence and brings together the who's who of the global mining industry. This is THE event where individuals and companies are acknowledged for their outstanding achievement and contributions to the Canadian mineral industry. Mix and mingle with C-level executives, financiers, brokers and mining developers at the glittering cocktail reception, followed by a three-course gourmet dinner and fine wines.

Then... it's on to the **AFTER PARTY!** This is your opportunity to rub shoulders with the 2019 Award Recipients, brokers, financiers and developers. Enjoy two complimentary drink tickets, dance and enjoy a great party atmosphere—the perfect backdrop for unlimited networking!

Get your tickets early! This event SOLD OUT in 2018.

5:30 – 7:00 pm	Reception **NEW START TIME**
6:15 pm	Doors Open
6:30 pm	Bars Close
7:00 – 8:00 pm	Dinner
8:00 – 9:00 pm	Awards Presentations
9:00 – 11:00 pm	After Party

Admission ONLY with ticket
Ticket: $149.99 (includes tax & gratuity)
Table of 10: $1,499.90
Tables may be reserved only if purchasing a table of 10. A maximum of 3 tables/30 tickets may be purchased per individual/company. **WHEN PURCHASING MULTIPLE TICKETS, THE PURCHASER IS RESPONSIBLE FOR TICKET DISTRIBUTION.**

Dress: Business Attire, Black Tie Optional

TUESDAY, MARCH 5

Student-Industry Networking Luncheon

11:30 am – 1:30 pm
North Building, Level 100

This reception-style buffet luncheon provides an opportunity for students and early career professionals to connect with industry professionals in a relaxed environment.

The winners of the Mary-Claire Ward Geoscience Award and the Joan Bath and Peter Howe Bursary for Advancement in the Mineral Industry will be announced, as well as the selected 2019 Student-Industry Mineral Exploration Workshop (S-IMEW) participants. There will be a draw for the annual tuition top-up awards. Proof of student membership is required to claim the award.

RSVP when you register for the convention

TUESDAY, MARCH 5

Mining for Diversity Reception

Open to all pass types

4:00 pm – 6:30 pm
North Building, Level 100

This event celebrates diversity and inclusion. Join women and men from the mining industry for the opportunity to network and hear from the inspiring awards recipients. Awards will be presented to individuals who have been instrumental in enabling the increase of a diverse workforce and an inclusive workplace within the mining industry. These include the Trailblazer Awards (woman and student); Trailblazer Indigenous Awards (woman and student); and Rick Hutson Memorial Award for mentoring.

This event is coordinated by Women in Mining Canada in partnership with PDAC, with generous support from the Royal Bank of Canada and help from the Global Indigenous Development Trust, Mining Industry HR Council, Temiskaming Native Women's Support Group, The Women's Association of the Mining Industry of Canada and Women Who Rock.

For more information, visit **wimcanada.org**

WEDNESDAY, MARCH 6

Grand Finale

Open to all pass types

8:00 pm – 12:00 am
Fairmont Royal York, Concert Hall **NEW ROOM**

Sponsored by

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After four exhilarating days at the world's premier mineral exploration and mining convention, it's time to **PARTY!**

Come and enjoy this must-attend **FREE** event!

Network and schmooze with the world's mining community while the **Dave Murphy Band** lights up the room with your favourite chart-topping tunes.

Get your two **FREE** drink tickets at the door, grab a bite to eat and dance, dance, dance!

IMPORTANT
Keep your convention pass when leaving the Metro Toronto Convention Centre. Admission ONLY with your convention pass.

Dress: Casual

Mining Country Sponsors

PDAC is pleased to announce that **Peru** (Booth 1423), **Brasil** (Booth 1303) and the **Government of Canada** (Booths 539, 6501N) are the official Mining Country Sponsors. We invite you to visit them in the Trade Show or discover more about these mining countries at their Presentation Rooms.

Perú

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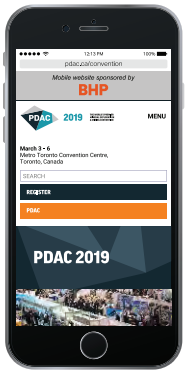
For more information on our Mining Country Sponsors, please visit **pdac.ca/convention/sponsors/sponsors-mining-country**

Mobile Convention Website

Works like an app. Use this essential tool to plan your time and navigate the convention. Build customized schedules into a smartphone calendar by:

- Adding events and presentations
- Locating and saving exhibitors
- Viewing floorplans

Enjoy **FREE** Wi-Fi throughout the MTCC (limited access in exhibit halls).



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Winter 2019